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Original Research Article

Assessment of knowledge, perception and uptake of screening for cardiovascular disease risk factors among traders in an urban market setting in Enugu, Nigeria: a cross-sectional study

Susan C. Udeh[1]*, Elias C. Aniwada[2], Blessing H. Nwazulu[1], Simon C. Udeh[1], Daniel C. Obi[1], Ngozika S. Ike-Samuel[2], Louis N. Ngele[1]

[1]Institute of Public Health, University of Nigeria, Enugu, Nigeria
[2]Department of Community Medicine, University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, Nigeria

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***Correspondence:**
Dr. Susan C. Udeh,
E-mail: udehsusanchioma@gmail.com

ABSTRACT

Background: Cardiovascular diseases (CVDs) remain the leading cause of mortality globally, with disproportionate impacts in low- and middle-income countries like Nigeria. Traders, a key economic group, face heightened CVD risks due to occupational and lifestyle factors. This study assessed the knowledge, perception, and uptake of screening for CVD risk factors among traders in Ogbete Main Market, Enugu, Nigeria.
Methods: A cross-sectional study was conducted among 363 traders selected through stratified random sampling. Data was collected using the Heart Disease Knowledge Questionnaire (HDKQ). Data was analyzed using SPSS version 22.
Results: Participants had good knowledge of CVD risk factors (63.9). Hypertension (97.3%) and unhealthy diets (85.4%) were the most recognized risk factors, but gaps were evident in the understanding of obesity (43.5%) and physical inactivity (44.9%). Positive perception was observed in 58.1% of participants. Screening rates were low despite good knowledge and positive perceptions. Blood pressure screening was reported by 67.2%, but cholesterol (4.7%) and BMI (2.2%) screenings were alarmingly rare.
Conclusions: The findings highlight significant gaps in the uptake of CVD screening among traders, despite moderate-to-good knowledge and perception levels. Targeted interventions, are needed to address these barriers.

Keywords: Cardiovascular disease, Enugu, Nigeria, Perception, Risk factors, Screening uptake, Traders

INTRODUCTION

Cardiovascular diseases (CVDs) are group of diseases that affect the heart and circulatory system. These include coronary heart disease, cerebrovascular disease, rheumatic heart disease and peripheral artery disease.[1] Cardiovascular diseases (CVDs) are the leading cause of death in the world, accounting for almost one-third of all deaths worldwide. According to the World Health Organization (WHO), they cause approximately 17.9 million deaths annually, 40.8 million disability-adjusted life years (DALYs) each year, 36.4 million years of life lost (YLLs) due to premature deaths and 4.5 million years lived with disability (YLDs). More than 75% of deaths from CVDs have been found to occur in low- and middle-income countries.[1,2] It has also been estimated that the number of people who die from cardiovascular diseases, primarily heart disease and stroke, will increase to 23.3 million by 2030, and cardiovascular diseases are projected to remain the leading cause of death in the world.[1]

The high burden of cardiovascular risk factors such as hypertension, dyslipidemia, diabetes and obesity is

caused by several behavioural risk factors such as unhealthy diet, physical inactivity, smoking and harmful alcohol consumption.[3-5] These factors are associated with urbanization, lifestyle changes and lack of awareness of the. These risk factors can be modifiable or non-modifiable and their role in cardiovascular disease varies depending on the population and environmental factors.[6,5] For example, hypertension is more common in older adults, whereas smoking is more common in younger age groups.[7,8] In addition to these common risk factors, emerging risk factors such as air pollution, family history of cardiovascular disease, stress, and poor sleep quality are also associated with cardiovascular disease outcomes.[9,10] Identifying and treating cardiovascular disease risk factors through screening, lifestyle changes, and appropriate interventions is important for prevention and reducing the burden.[11-13]

In Nigeria, cardiovascular disease account for a significant proportion of morbidity and mortality, with hypertension being the most prevalent risk factor.[14] Traders are a vital workforce in every local economy and their health status is critical for the socio-economic development of the community, they are at higher risk of developing cardiovascular diseases due to factors such as their busy work schedule, limited access to healthcare, and potentially poor dietary habits.[15] Knowledge of cardiovascular disease risk factors among traders is a key factor in assessing susceptibility to developing cardiovascular disease.[16] Traders in Enugu, due to their lifestyle and the nature of their business, have a high prevalence of cardiovascular disease risk factors, and many Nigerian traders lack knowledge of risk factors associated with cardiovascular disease such as hypertension, smoking, obesity, physical inactivity and hypercholesterolemia.[15] However, there is a need to raise awareness and develop programs to educate traders in Enugu about cardiovascular disease, its risk factors, causes, and screening and prevention strategies.

This study is aimed to address critical public health challenge of cardiovascular disease (CVD) among traders in Enugu, a population that faces heightened vulnerability due to lifestyle and occupational factors. CVD remains the leading cause of global mortality, disproportionately affecting low- and middle-income countries like Nigeria. By focusing on traders, this research emphasizes a key demographic that contributes significantly to the local economy but is often neglected in health interventions.

The study's findings will provide essential insights into the knowledge, perceptions, and uptake of cardiovascular disease screening among this group. It will highlight gaps in awareness and identify barriers to preventive health practices, enabling the design of targeted interventions. Furthermore, the study will emphasize the importance of early detection and lifestyle modification as cost-effective measures to mitigate the burden of CVD.

METHODS

Study design

This was a cross-sectional study conducted among traders in Ogbete Market, Enugu, Nigeria. This design was chosen to capture a snapshot of the extent of cardiovascular disease (CVD) risk factor screening uptake and its associated factors at a single point in time.

Study area

The study was carried out at Ogbete Main Market in Enugu North Senatorial District, Enugu State, Nigeria.

Study population

The main population consisted of traders in the largest and cheapest marketplace in the state, Ogbete Main Market, Enugu, with an estimated population of 110,000. There were approximately 68,742 shops with a minimum of 2 persons per shop.

Study duration

The duration of study was from February to June 2024 (4 months).

Inclusion criteria

The participants had to be above 18 years of age, he or she had to have a shop at Ogbete Market, Enugu, and he or she had to have provided informed consent were included.

Sampling technique

Stratified sampling techniques were employed. The traders were divided into subgroups or strata. Originally, Ogbete Market was grouped into 4 divisions: the Holy Ghost section, which accounted for 40% of the sample size; Old Park, which accounted for 25%; Akwata, which accounted for 20%; and the Mgbemene section, which accounted for 15%. Within each stratum, traders were randomly selected to ensure unbiased representation.

Study instruments

The study utilized a modified version of the Heart Disease Knowledge Questionnaire (HDKQ) originally developed by Bergman et al.[17] The questionnaire was adapted to align with the study's objectives and the context of the participants.

The questionnaire was pretested on 30 traders in a nearby market to ensure clarity, reliability, and cultural appropriateness. The pretest resulted in minor adjustments to question phrasing to improve comprehension.

Data collection

An advocacy visit was paid to the Market Leaders Association to obtain permission to carry out the study.

Measurement of variables

The knowledge level of cardiovascular risk factors was assessed by requesting respondents to answer 15 questions about risk factors of cardiovascular disease. The knowledge score was calculated as one for every "correct response" and zero for every "incorrect response" or "Don't know." The total score ranged from 0 to 15. Respondents who correctly answered 8 out of the 15 questions were considered to have good knowledge of cardiovascular risk factors while those with less than 8 correct responses were considered to have poor knowledge

The attitude towards cardiovascular risk factors was determined using 11 questions. A 5-point Likert scale was used in assessing the answers of this section. For attitude statements with positive responses as the correct response, strongly agree and "agree," were scored one while "not sure," "disagree," and, "Strongly disagree" were scored zero and vice versa. The total scores ranged from 0 to 11. Respondents with total scores of 6 and above were considered to have a positive attitude towards cardiovascular risk factors while those with scores less than 6 were considered to have negative attitude.

Uptake of cardiovascular risk factors was analyzed as proportion of persons who affirmed to have been screened for a particular risk factor within the past one year.

Data analysis

The questionnaire data were cleaned and coded for data entry analysis using the Statistical Package for the Social Sciences (SPSS) version 22. Simple descriptive statistics such as mean, frequencies, proportions and standard deviation were employed in presenting the main characteristics of the study respondents. Chi-Square was used to establish the association between variables. A p-value of $p<0.05$ was considered statistically significant. Significant variables from the chi-square test were used as predictors in the analysis on perception, knowledge and uptake of screening levels for the research. Binary logistic regression was also carried out, and results from the binary logistic regression were expressed as adjusted odds ratios (AORs) with 95% confidence intervals (CIs).

Ethical consideration

This research followed the tenets of the Declaration of Helsinki. Ethical clearance was obtained from the Ethical Committee of the College of Medicine, University of Nigeria Teaching Hospital (UNTH) Ituku-Ozalla, Enugu. Written permission was obtained from the Ogbete Market Traders Association.

RESULTS

The study was among 363 traders in Ogbete Market, Enugu. However, 370 questionnaires were administered. In all, seven (7) were not completely responded to and were discarded giving a response rate of about 98%.

The majority of participants were female (59.5%), while males accounted for 40.5%. Participants' ages ranged widely, with a mean age of 39.05 years (SD = 8.45).

Regarding educational attainment, the majority of participants had completed secondary education (64.7%), while 24.2% had primary education or below, and 11.1% had tertiary education. In terms of years of trading experience, nearly half (44.1%) had been trading for 6-10 years, 34.4% for 11-20 years, 15.7% for 1-5 years, and 5.8% had over 20 years of trading experience (Table 1).

Table 1: Socio-demographics of participants.

Characteristics	Total (n=363)	
	Frequency	**Percentage (%)**
Sex		
Female	216	59.5
Male	147	40.5
Age group		
18-24	21	5.8
25-34	76	20.9
35-44	171	47.1
>44	95	26.2
Mean (SD)	39.05 (8.45)	
Education		
Primary and below	88	24.2
Secondary	235	64.7
Tertiary	40	11.1
Years of trading (years)		
1-5	57	15.7
6-10	160	44.1
11-20	125	34.4
>20	21	5.8

The participants' knowledge of cardiovascular risk factors. Most participants demonstrated good knowledge of key factors such as hypertension (97.3%), diet (85.4%), smoking (88.4%), and the impact of sedentary lifestyles (91.7%). However, gaps were evident in recognizing the role of obesity (43.5%), physical inactivity (44.9%), and the benefits of regular exercise (59.2%) in cardiovascular disease prevention (Table 2).

Participants' perceptions of cardiovascular risk factors. While most participants correctly perceived that stress contributes to cardiovascular risk (82.1%) and that

cardiovascular diseases are not solely hereditary (56.5%), 57.6% did not believe they were personally at risk. Additionally, 73.8% disagreed that cardiovascular diseases can be cured with herbal remedies, and 81.5% correctly rejected the notion that these diseases only affect the elderly. Notable misconceptions include the belief that individuals who look healthy are not at risk (60.6%) and that family history has no impact on individual risk (Table 3).

Table 2: Knowledge on cardiovascular risk factors (n=363).

	Correct knowledge	Incorrect knowledge/ I don't know
	Frequency (%)	Frequency (%)
Cardiovascular disease is described as a disease of the heart or blood vessels	340 (93.7)	23 (6.3)
Eating a diet high in fruits, vegetables, and whole grains can lower the risk of cardiovascular diseases	310 (85.4)	53 (14.6)
A person who stops smoking can lower the risk factor of cardiovascular diseases.	321 (88.4)	42 (11.6)
Diabetes does not increase the risk of cardiovascular diseases.	284 (78.2)	79 (21.8)
Regular exercise can help reduce the risk of developing cardiovascular diseases.	215 (59.2)	148 (40.8)
Family history of cardiovascular diseases has no impact on an individual's risk of developing heart diseases	302 (83.1)	61 (16.8)
High cholesterol levels are a risk factor for cardiovascular diseases.	194 (53.4)	169 (46.6)
Blood pressure within the normal range does not contribute to the development of heart diseases	309 (85.1)	54 (14.9)
Obesity is a significant risk factor for cardiovascular diseases	158 (43.5)	205 (56.5)
Consuming a diet high in saturated fats and trans fats increases the risk of developing heart diseases	332 (91.5)	31 (8.5)
High levels of physical inactivity increase the risk of cardiovascular diseases.	163 (44.9)	200 (55.1)
Having a sedentary lifestyle does not contribute to the development of heart diseases.	333 (91.7)	30 (8.3)
Hypertension, or high blood pressure, is a major risk factor for cardiovascular diseases.	352 (97.3)	10 (2.7)
Having a healthy body weight has no effect on the risk of developing cardiovascular diseases.	243 (66.9)	120 (33.1)
Limiting alcohol intake can help lower the risk of heart diseases.	296 (81.5)	67 (18.5)

Table 3: Perception of cardiovascular risk factors (n=363).

Variables		
	Positive	Negative
I believe I am at risk of developing cardiovascular diseases	154 (42.4)	209 (57.6)
I believe stress contributes to the risk of cardiovascular diseases.	298 (82.1)	65 (17.9)
Cardiovascular diseases can be cured by herbal remedies.	95 (26.2)	268 (73.8)
Cardiovascular diseases only affect the elderly.	296 (81.5)	67 (18.5)
Only overweight individuals are at risk of heart diseases.	180 (49.6)	183 (50.4)
Cardiovascular diseases are mainly hereditary and there's nothing one can do to prevent them.	205 (56.5)	158 (43.5)
High blood pressure is only concern for the older individuals.	350 (96.4)	13 (3.6)
If someone looks healthy, they are not at risk of cardiovascular disease.	220 (60.6)	143 (39.4)
Only men are at significant risk of heart issues; women are relatively safe.	335 (92.3)	28 (7.7)
It's unnecessary to monitor cholesterol levels if one feels healthy.	252 (69.4)	111 (30.6)
Family history of cardiovascular has no impact on individual risk.	140 (38.6)	223 (61.4)

Assessing the knowledge level of respondents, 232 (63.9%) had good knowledge of cardiovascular risk factors and 131 (36.1%) had poor knowledge. Similarly, Positive perception towards cardiovascular risk factors

was found in 211 (58.1%) of participants and negative perception was found in 152 (41.9%) (Table 4).

Table 4: Knowledge and perception levels regarding cardiovascular risk factors.

		Total n=363	
Items		**Frequency**	**Percentage**
Knowledge level	Good	232	63.9
	Poor	131	36.1
Perception level	Positive	211	58.1
	Negative	152	41.9

Majority (67.2%) reported having undergone high blood pressure screening in the past year, and nearly half (49.3%) received a diabetes screening, with only 4.7% undergoing cholesterol screening, 3.3% receiving cardiovascular disease risk assessments, and 2.2% having their BMI checked.

Additionally, no participants reported screenings for smoking/tobacco use, physical activity, family history, or stress. Nutrition and diet screenings (0.6%) and obesity or body weight management screenings (0.8%) were also rare (Table 5).

Table 5: Uptake of screening for cardiovascular risk factors.

Variables	Yes	No
	Frequency (%)	**Frequency (%)**
I have undergone a screening for high blood pressure in the past year.	244 (67.2)	119 (32.8)
I have undergone a screening for high cholesterol levels in the past year	17 (4.7)	346 (95.8)
I have received a diabetes screening in the past year	179 (49.3)	184 (51.0)
I have had my body mass index (BMI) checked in the past year.	8 (2.2)	355 (98.3)
I have undergone a screening for smoking and tobacco use in the past year.	0	363 (100.0)
I have received a screening for physical activity level in the past year.	0	363 (100.0)
I have had a screening for family history of cardiovascular diseases in the past year.	0	363 (100.0)
I have undergone a stress assessment or screening in the past year	0	363 (100.0)
I have undergone a screening for nutrition and diet in the past year.	2 (0.6)	361 (99.4))
I have had a screening for obesity or body weight management in the past year	3 (0.8)	360 (99.2)
I have undergone a cardiovascular disease risk assessment in the past year	12 (3.3)	351 (96.7)

Table 6: Reported diagnosis of cardiovascular disease and reasons for not screening.

Variables	Yes	No
	Frequency (%)	**Frequency (%)**
Have you ever been diagnosed of cardiovascular disease?	15 (4.1)	353 (95.9)
Lack of access to screening facilities and cost of screening is my reasons for not being screened.	173 (47.7)	190 (52.3)

Out of 363 respondents, only 15 (4.1%) affirmed to have been diagnosed of a cardiovascular disease. One hundred and seventy-three respondents agreed that lack of access to screening facilities and screening cost were reasons for not been screened for cardiovascular risk factors (Table 6).

The 77.5% of those with tertiary education had good knowledge compared to 69.4% with secondary education and 43.2% with primary education and below. Hence knowledge increased as educational level increased ($p<0.001$. Similarly, 81.0% of those who had traded for more than 20years had good knowledge, compared to 64.4% of those with 6-10years of trading experience and 49.1% among those who had traded for 1 to 5years (Table 7).

There was found no statistically significant association between age of respondents, sex and years of experience in trading ($p>0.05$). However, level of education was found to be associated with level of knowledge ($p<0.001$). Those who had tertiary education (82.5%) had positive perception towards cardiovascular disease risk factors screening compared to 61.7% among those with secondary education and 37.5% among those with primary education and below (Table 8).

Those with secondary education were 0.22 times more likely to have good knowledge of cardiovascular risk factors compared to those with primary education and less which was statistically significant. Those with tertiary education higher odds (0.62) of having good knowledge though this was not statistically significant. The odds for having good knowledge increased with increase in years of trading (Table 9).

Table 7: Association of socio-demographic characteristics with knowledge on cardiovascular risk factors.

	Knowledge on cardiovascular risk factors			
Socio-demographic characteristics	**Good**	**Poor**	**χ2**	**P value**
	N (%)	**N (%)**		
Age group in years				
18-24	12 (57.1)	9 (42.9)	1.107	0.775
25-34	46 (60.5)	30 (39.5)		
35-44	111 (64.9)	60 (35.1)		
>44	63 (66.3)	32 (33.7)		
Sex				
Female	136 (63.0)	80 (37.0)	0.208	0.648
Male	96 (65.3)	51 (34.7)		
Level of education				
Primary and below	38 (43.2)	50 (56.8)	22.624	0.000
Secondary	163 (69.4)	72 (30.6)		
Tertiary	31 (77.5)	9 (22.5)		
Years of trading				
1-5	28 (49.1)	29 (50.9)	8.650	0.034
6-10	103 (64.4)	57 (35.8)		
11-20	84 (67.2)	41 (32.8)		
>20	17 (81.0)	4 (19.0)		

Table 8: Association of socio-demographic characteristics with perception on cardiovascular risk factors.

	Perception on cardiovascular risk factors			
Socio-demographic characteristics	**Positive**	**Negative**	**χ2**	**P value**
	N (%)	**N (%)**		
Age group in years				
18-24	16 (76.2)	5 (23.8)	4.405	0.221
25-34	39 (51.3)	37 (48.7)		
35-44	99 (57.9)	72 (42.1)		
>44	57 (60.0)	38 (40.0)		
Sex				
Female	123 (56.9)	93 (43.1)	0.306	0.580
Male	88 (59.9)	59 (40.1)		
Level of education				
Primary and below	33 (37.5)	55 (62.5)	26.380	0.000
Secondary	145 (61.7)	90 (38.3)		
Tertiary	33 (82.5)	7 (17.5)		
Years of trading				
1-5	34 (59.6)	23 (40.4)	0.435	0.933
6-10	94 (58.8)	66 (41.3)		
11-20	70 (56.0)	55 (44.0)		
>20	13 (61.9)	8 (38.1)		

Table 9: Predictors of good knowledge on cardiovascular risk factors.

Variables			95% CI for AOR	
	Sig	AOR	Lower	Upper
Level of education				
Primary and below		1		
Secondary	0.001	0.22	0.092	0.516
Tertiary	0.246	0.62	0.278	1.389
Years of trading				
1-5		1		

Continued.

Variables			95% CI for AOR	
6-10	0.035	0.23	0.058	0.899
11-20	0.244	0.49	0.146	1.632
>20	0.273	0.51	0.155	1.711

Table 10: Predictors of positive perception of cardiovascular risk factors.

Variables			95% CI for AOR	
	Sig	**AOR**	**Lower**	**Upper**
Level of education				
Primary and below		1		
Secondary	0.000	0.13	0.046	0.320
Tertiary	0.014	0.34	0.145	0.805

Those with tertiary education were 0.34 times more likely to have good knowledge compared to those with primary education or less and those with secondary education were 0.13 times more likely to have good knowledge compared to those with primary education or less (Table 10).

DISCUSSION

This study assessed the knowledge, perception, and uptake of cardiovascular disease (CVD) risk factors' screening among traders in Ogbete Market, Enugu. The findings provide critical insights into the challenges and opportunities for public health interventions aimed at reducing the burden of CVDs in this key population.

In this study it was observed that there were more female traders than males, consistent with earlier findings by Odugbemi et al in the south-western region of Nigeria which highlighted that women dominate the trading population in urban markets.[15] This trend may also align with the general observation in Nigerian communities that women are more inclined to participate in health screening activities than males.[18,19] Predictors of good knowledge and positive perception included higher education levels, with tertiary education significantly increasing the likelihood of having good knowledge and a positive perception. Also, a study conducted in Nigeria to assess the knowledge of CVD risk factors of community pharmacists, shows a good knowledge of CVD risk factors and education was associated with increased knowledge of CVD and its risk.[20]

The study found that knowledge of cardiovascular risk factors among participants was generally good, with 63.9% demonstrating adequate awareness, it demonstrated significant associations between education levels in both knowledge and perception of CVD risk factors. Higher levels of education were associated with better knowledge and more positive perceptions, this could be attributed to the fact that those with higher education levels have a higher knowledge of cardiovascular disease risk factors as a result of increased exposure to information and a better understanding of the preventive measures, this is compatible to the study by Wagner et al, which showed that individuals with a high level of education were more likely to achieve a higher HDFQ score compared to those without no or lesser education level.[21]

Most participants demonstrated good knowledge of key factors such as hypertension (97.3%), diet (85.4%), and Diabetes (78.2%), this aligned with the study conducted in Saudi Arabia by Bashata et al to explore the knowledge of cardiovascular disease risk factors among Saudi adults, 81.8% of participants (n=296) agreed that high blood pressure was a risk factor for CVD, while more than two-thirds (68.8%; n=249) believed that diabetes was a risk factor for CVD.[22] Another study conducted in Ghana by Olutobi et al, to examine the knowledge of CVD risk factors among three urban communities shows that 71.1% had good knowledge and 28.9% had moderated to poor knowledge similarly in this present study, 63.9% participants had good knowledge and 36.1% had poor knowledge.[3] However, notable gaps were observed in recognizing the roles of obesity, physical inactivity, and regular exercise in CVD prevention, this is similar to a study conducted in Nairobi where the participants mentioned that poverty, ignorance and illiteracy promoted behaviours like physical inactivity, obesity, smoking and unhealthy lifestyles.[24] Another qualitative study conducted in South Africa showed that respondents were generally not familiar with the concept of risk, most respondents stated that they were "at risk of stroke" due to lack of medication adherence.[25]

The perception of CVD risk factors was positive in 58.1% of participants. Education was again a key determinant, with those having tertiary education showing a significantly more positive perception (82.5%) than those with secondary (61.7%) or primary education (37.5%). Similarly, in a study by Alwan et al, half of middle-aged adults could provide an estimate of their perceived cardiovascular disease (CVD) risk, and this capability was closely linked to higher education levels and socioeconomic status (SES). A high perceived CVD risk was strongly associated with being treated for hypertension, diabetes, or dyslipidemia. This suggests

that higher education levels contribute to better health-related attitudes.[26] Notably, misconceptions persisted among respondents, 49.6% believed that only overweight individuals are at risk of heart disease, and 60.6% thought that looking healthy precludes risk. The misconception that cardiovascular disease only affects older or overweight people may give people who consider themselves "healthy" or young a false sense of security. The idea that these conditions are largely hereditary and cannot be prevented may also prevent people from taking proactive steps to reduce their risk. The results highlight the need for targeted health education and awareness campaigns to address these beliefs and enable people to play an active role in managing their cardiovascular health. In a similar study at secondary school students in Ibadan, Nigeria, it was also reported that most participants did not consider themselves to be at risk for cardiovascular disease. They did not believe that their lifestyle habits could lead to heart disease and they were not worried about developing cardiovascular disease during adolescence, and believed that it was a matter of luck that cardiovascular disease could be avoided. Furthermore, 70.4% of participants believed that the causes of heart disease were unknown.[27]

In addition, the influence of cultural beliefs, such as family history of cardiovascular has no impact on individual risk (61.4%), may also contribute to negative risk perception. Another study aimed to examine the understanding and awareness of cardiovascular disease and its risk factors. Results showed that poverty, ignorance, and illiteracy promote behaviours such as smoking, excessive alcohol consumption, physical inactivity, and unhealthy diets, which are associated with the development of obesity, diabetes, and hypertension.[24]

This current study revealed a generally low uptake of screening for various cardiovascular risk factors among the participants, despite relatively good knowledge and perception levels, while 67.2% had been screened for high blood pressure in the past year, screenings for other risk factors, such as high cholesterol (4.7%) and BMI (2.2%), were alarmingly low. No participant reported screening for tobacco use, physical activity, or stress. This is consistent with the findings from the study by Ignatowicz et al (2020) in Sierra Leone, which identified significant barriers to accessing screening due to poverty and lack of medications.[28] The low uptake of screening observed in the current study could be attributed to financial constraints, and limited access to screening services. A study by Willis et al demonstrates the high effectiveness and uptake of cardiovascular disease risk factor screening in a community pharmacy setting, attributed to the accessibility, convenience, and immediate feedback provided. In contrast, the Enugu study highlights the challenges faced by traders, including low awareness, economic and cultural barriers, and limited healthcare access, leading to lower screening uptake. So, for improving screening among traders in Enugu, integrating accessible and convenient screening options similar to community pharmacies, along with targeted educational campaigns and addressing economic barriers, could enhance participation and effectiveness.[29]

Another study conducted in Ghana by Mensah et al, shows that both studies highlight the critical role of cultural beliefs and socio-economic factors in shaping perceptions and behaviours related to cardiovascular disease risk factors screening. The study emphasizes the influence of cultural and economic contexts on health which suggest low engagement in preventive behaviours due to contextual factors while in Enugu, quantitative data reveal screening uptake, with detailed socio-demographic breakdowns. To improve CVD risk factor screening and preventive behaviours, interventions in both settings should address cultural beliefs, enhance health education, and improve economic access to healthy foods and healthcare services.[30]

This study has few limitations. The findings are specific to traders in Ogbete Main Market and may not be generalizable to other populations, such as traders in rural areas, individuals in different occupations, or the general population in Nigeria. The reliance on self-reported responses may introduce recall bias or social desirability bias, as participants might overestimate or underestimate their knowledge and screening behaviours. Addressing these limitations in future research could strengthen the understanding of CVD risk factors, screening behaviours and inform more effective interventions.

CONCLUSION

This study explored the knowledge, perception, and uptake of cardiovascular disease risk factor screening among traders in Ogbete Main Market, Enugu, Nigeria. The findings reveal significant gaps in the actual uptake of screening services, despite a generally moderate to high level of knowledge and perception of cardiovascular risk factors. While many respondents demonstrated good knowledge and positive perceptions, the practice of screening was low. Blood pressure screening was the most commonly reported, while screenings for cholesterol, body mass index, physical activity, smoking, and family history were notably absent.

Barriers such as limited access to facilities and the cost of screening emerged as significant obstacles to preventive health practices. This points to a need for interventions aimed at reducing these structural and economic barriers in low-resource settings like this one.

Globally, the findings align with trends in low- and middle-income countries, where socioeconomic factors and access issues hinder the uptake of preventive healthcare services. These results underscore the need for innovative, affordable, and accessible approaches to improve health-seeking behaviors in similar populations.

This study highlights the need for collaborative efforts among policymakers, healthcare providers, and community leaders to address these barriers and promote accessible screening programs tailored to the needs of informal traders. Such efforts can contribute significantly to reducing the impact of cardiovascular diseases in underserved communities and beyond.

Recommendations

Stakeholders, including government health agencies and non-governmental organizations, should establish affordable and accessible screening programs within marketplaces to reduce the cost and logistical challenges traders face in accessing screening services.

Intensive health education programs should be implemented to address gaps in knowledge and misconceptions about cardiovascular disease risk factors. Emphasis should be placed on the benefits of regular screening, physical activity, and lifestyle modifications.

Market leaders and trade associations should be trained to act as health advocates within their communities. Their involvement can help improve participation in health promotion activities.

Local governments should partner with healthcare providers to implement community-based interventions, such as routine health checkups and wellness programs, tailored to the unique needs of market traders.

Additional studies should be conducted to explore the specific barriers to cardiovascular disease screening uptake and identify effective strategies for improving health-seeking behaviors in similar populations across Nigeria and other low-resource settings.

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